GRUSHIN, V.I.

TITLE: Scientific-technical Conference of the MIIGA i K in 1959 (Nauchno-tekhnicheskaya konferentsiya MIIGA i K 1959 g.)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 3, pp 144 - 146 (USSR)

ABSTRACT: The periodic scientific-technical conference of the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers) was held on April 22-24, 1959, with the participation of 500 persons. 31 lectures were delivered. The introductory speech was held by Professor A. A. Izotov. Candidate of Philosophical Sciences A. I. Ivanov lectured on "The Outstanding Work of Materialistic Philosophy"; Candidate of Technical Sciences A. V. Kondrashkov on "Radioelectronics and Geodesy"; Candidate of Technical Sciences G. V. Bagratuni on "Accuracy of the Solution of the Inverse Position Computation With Coordinates of Different Geodetic Systems"; Candidate of Technical Sciences P. V. Shokin reported on "Gravimetry in Today's Stage of Development"; Candidate of Technical Sciences

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V. D. Bol'shakov on "Investigation of the Rules Governing the Distribution of Errors When Generalizing the Relief in Photography"; Post-graduate Student Yu. V. Mokhov on "The Influence of the Rounding Error on the Accuracy of Solutions of Linear Equation Systems". Post-graduate Student N. D. Drozdov reported "On the Solution of Linear Systems in the Compensation of Geodetic Nets". Docent V. K. Korolevtsev dealt with "The Experience in the Application of Parallactic Polygonometry With Short Basis and Constant Vertical Basis". Doctor of Physical and Mathematical Sciences A. M. Faynzil'berg lectured on "Some Integrals From the Theory of Surfaces and Their Application to the Mechanics of Artificial Earth Satellites"; Candidate of Technical Sciences A. S. Valuyev on "The Stereocomparator With Correctors". Assistant M. I. Burov spoke on "Photogrammetric Method of Determining the Altitudes of Luminous Clouds". Candidate of Technical Sciences N. N. Veselovskiy reported on "The Generalization of the Formulae for the Plane Aerial Survey and the Altitudinal Aerial Survey". Candidate of Technical Sciences B. N. Rodionov and Candidate of Technical Sciences N. P. Zakaznov

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dealt with "Central Shutters of Band Type Aerial Cameras". Candidate of Technical Sciences B. N. Rodionov spoke on the "Stroboscopic Collimator Visor"; Engineer V. I. Zerkhov reported on a "Computing Gear for the Automatic Entry of the Airplane in the Aerial Photography Path". Post-graduate Student Yu. N. Kuznetsov spoke on the "Application of the Instantaneous Photography for Aerial Camera Testing". Assistant Ye. P. Arshanov spoke on the "Computation of the Aerial Camera Constants"; Engineer V. I. Grushin, Chief Technician of the Geotekhkontora Gosplana RSFSR on "Some Results and Tasks Related to Large-scale Phototheodolite Surveying Operations"; Doctor of Technical Sciences V. I. Sukhov on "The Problem Concerning the Contents of the New Map on the Scale of 1 : 2500000"; Doctor of Technical Sciences A. I. Preobrazhenskiy on "Mineral Deposits in the USSR and Their Reproduction on Economic Maps"; Assistant S. S. Sudakova on the "Method of Geographic Investigation on the Field During the Preparatory Editorial Work on the Cartographing Object (From the Working Experience Acquired by the Meshcherskaya ekspeditsiya (Meshcherskaya Expedition of the MIIGA i K 1958)".

Assistant A. S. Tolstoukhov dealt with "The Problem of Improving the Relief Representation of a Flat Inhabited Territory on the Topographic Map on the Scale of 1 : 10000". Candidate of Technical Sciences Yu. S. Bilich spoke on "Maps of Cultivated Areas in the Comprehensive Atlantes of the Oblast'". Candidate of Technical Sciences I. I. Men'shikov dealt with "A. S. Popov - Scientist, Inventor, Pedagogist (On the 100th Birthday of A. S. Popov)". Senior Lecturer N. V. Yakovlev lectured on "Mirror Lens Objectives With Great Luminous Intensity". Professor I. G. Sarkin reported on "The Problem of Compensating the Variations and the Increase of Accuracy in the Measurement of Physical Quantities". Candidate of Technical Sciences V. A. Afanas'yev dealt with "Methods of Measuring Investigations Concerning Optical Main Characteristics of Aerial Camera Objectives With Dropping Atmospheric Pressure and Temperature". Engineer V. M. Nazarov lectured on "Vertical Axis Systems of High-precision Optical Theodolites". Assistant V. S. Usov spoke on "Sighting by the Aid of Telescopes With Zone Plates". Post-graduate Student P. P. Zakharov dealt with "The Automation of Measurements on a Pair of Stereoscopic Pictures". At the Plenary Session held on April 24 the Chief of the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Chief Administration of Geodesy and Cartography of the Ministry of Internal Affairs of the USSR), A. N. Baranov lectured on "The Seven-year Plan and the Development of Topographic-geodetic and Cartographic Work".

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S/120/60/000/02/006/052
E032/E414

AUTHORS: Grushin, V.F., Zapevalov, V.A. and Leykin, Ye.M.

TITLE: A Total Absorption Cherenkov Gamma Spectrometer

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 2, pp 27-32 (USSR)

ABSTRACT: A description is given of a total absorption Cherenkov gamma spectrometer using a lead glass radiator to record gamma radiation up to 250 MeV. The radiator was chosen to be in the form of a uniform cylindrical block 28 cm in diameter and 22 cm long (11.8 t-units and 9.3 t-units respectively) and was made from TF-1 glass having an absorption coefficient of 0.2 to 0.3. The gamma spectrometer was in the form of a steel cylindrical frame with the radiator fixed to its front (Fig 2). The cylindrical surface of the radiator was covered by aluminium foil and one of the flat surfaces by a polished silver mirror. The light was collected by seven FEU-24 photomultipliers from the front surface of the radiator. The photomultipliers had a resolution of 10 to 12% measured on the Cs^{137} photopeak. The area covered by the photomultiplier cathodes was about 50% of

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E032/E414

A Total Absorption Cherenkov Gamma Spectrometer

the plane face of the radiator. On the front wall of the frame and in the mirror, an aperture was made capable of taking a standard sodium iodide crystal which was used to check the working of the spectrometer. The frame, the glass and the photomultipliers were placed in a steel tube which ensured that no extraneous light reached the device and also acted as a magnetic screen for the photomultipliers. In addition, provision was made for further magnetic screening of the photomultipliers by means of soft-iron or permalloy cylinders which surrounded each of the photomultipliers. Pulses from the photomultiplier anodes were fed into the cathode followers which could be used to regulate the magnitude of the signal and were followed by an adding circuit attached to the rear wall. In addition to the adding circuit, the apparatus included a gating circuit and a 10-channel kicksorter. The gating circuit was specially designed for use in the calibration of the gamma-spectrometer and ensured linear transmission of the signal from the gamma-spectrometer to the kicksorter when the gating

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A Total Absorption Cherenkov Gamma Spectrometer

pulse was applied to it. The spectra were examined with a simple 10-channel kicksorter having a mechanical counter at its output. The characteristics of the gamma-spectrometer were investigated on the 265 MeV synchrotron of the Physics Institute of the Academy of Sciences USSR. Fig 4 shows the results of a determination of the resolution of the gamma spectrometer using electrons having a 10% energy spread. Fig 5 shows the dependence of the amplitude of the output pulse on the electron energy. As can be seen, the instrument is linear in the energy range indicated. Fig 6 shows the energy dependence of the resolution of the gamma-spectrometer. Fig 8 shows the resolution of the various gamma spectrometers built in different laboratories. The curve marked 5 represents the present results. As can be seen, the present spectrometer has the best energy resolution but the dependence of the resolution on energy is somewhat different as compared with the other instruments. The work on the development of the present

 spectrometer was completed in 1957 (Ref 5). It was

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A Total Absorption Cherenkov Gamma Spectrometer

found that improvements in the resolution could be obtained by replacing the silver coating by an aluminium coating. Careful magnetic screening was found to be essential in order to obtain the best results. Acknowledgments are made to V.I.Gol'danskiy, M.N.Alentsev, L.M.Belyayev and I.M.Buzhinskiy for discussing a number of problems and collaboration in the present work. Acknowledgments are also made to A.N.Zinevich, A.P.Onuchin and K.I.Yablonin who took part in the development of this spectrometer. There are 8 figures, 2 tables and 9 references, 1 of which is Soviet, 1 a Russian translation from English and 7 English.

ASSOCIATION: Fizicheskiy institut AN SSSR
(Physics Institute AS USSR)

SUBMITTED: February 7, 1959

Card 4/4

GRUSHIN V.F.

ALEKSANDROV, Yu. M.; GRUSHIN, V. F.; LEVKIN, Ye. M.

"Photoproduction of π^+-Mesons on Proton at Gamma-Ray Energies 230 MeV"

report presented at the 11th Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

ACCESSION NR: AP4041010 S/0120/64/000/003/0033/0035

AUTHOR: Grushin, V. F.; Leykin, Ye. M.

TITLE: Line shape of a shower gamma-spectrometer

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 33-35

TOPIC TAGS: spectrometer, shower spectrometer, gamma spectrometer, gamma shower spectrometer

ABSTRACT: This formula is developed for describing the pulse distribution Q at the gamma-spectrometer output:

$$\Phi(Q)=\sum_{N=0}^{\infty}\varphi_N\int p^{(N)}(G)\frac{\exp[-(Q-G\omega)^2/2G\Delta]}{\sqrt{2\pi G\Delta}}dG,$$

where φ_N is the distribution of the number of shower particles N; $p^{(N)}(G)$ is the N-multiple composition of the density p(g); the quantity $\Delta=\nu\varepsilon\pi^2M^2(1+D(\sigma)/\sigma(\sigma-1))$.

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ACCESSION NR: AP4041010

In practice, the use of asymptotic distributions for all stages becomes possible at energies over 0.5—1 Gev. In this case, $(\bar{N})^{-1/4} \leqslant 0{,}1$, the asymmetry of the collected-light distribution curve becomes weaker and, thanks to the limiting theorem for the sum of a random number of random components, the line shape will be determined by the fluctuations inherent to the shower development. Orig. art. has: 4 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

SUBMITTED: 07Jun63

ENCL: 00

SUB CODE: NP NO REF SOV: 002 OTHER: 002

Card 2/2

GRUSHIN, V.F.; LEYKIN, Ye.M.

Shape of the line of a shower gamma-ray spectrometer. Prib. i tekh. eksp. 9 no.3:33-35 My-Je '64 (MIRA 18:1)

1. Fizicheskiy institut AN SSSR.

L 47089-65 EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5007023 S/0120/65/000/001/0052/0053 16 B

AUTHOR: Grushin, V. F.; Leykin, Ye. M.

TITLE: Calculating the correction for multiple Coulomb scattering with an allowance for ionization loss

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1965, 52-53

TOPIC TAGS: particle scattering, Coulomb scattering

ABSTRACT: Calculation of the part of particles missing a round-aperture detector, neglecting the ionization loss in the filter, was done by R. M. Sternheimer (Rev. Scient. Instrum., 1954, v. 25, 1070). The present article solves the same problem but, in addition, takes into consideration the ionization loss. Formulas 8 and 9 permit finding the correction for the multiple Coulomb scattering. "The authors wish to thank B. A. Tulupov for discussing the essence of the article." Orig. art. has: 1 figure and 9 formulas.

ASSOCIATION: Fizicheskiy institut AN SSSR (Institute of Physics, AN SSSR)

SUBMITTED: 19Dec63 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 003

Card 1/1

L 1570-66 EWT(m)/EWA(h)

ACCESSION NR: AP5019216 UR/0056/65/049/001/0054/0065/ 308

AUTHOR: Aleksandrov, Yu. M.; Grushin, V. F.; Zapevalov, V. A.; Leykin, Ye. M.

TITLE: Photoproduction of positive pions from protons at photon energy 230 Mev and determination of the $\gamma\pi\rho$ coupling constant

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 54-65

TOPIC TAGS: pion, muon, particle production, angular distribution, meson interaction

ABSTRACT: In view of the contradictory results of earlier measurements, the authors measured the differential cross section and the angular distribution for the photoproduction of π^+-mesons from protons at photon energy 230 Mev for the c.m.s. angles 0, 38, 82, 90, 116, 138, 146, and 180°. The experiment was performed in the bremsstrahlung beam of the 265-Mev synchrotron at FIAN (Physics Institute of the Academy of Sciences). The experimental set-up is illustrated in Fig. 1 of the Enclosure. The apparatus and data-processing procedure are described in detail. The π^+-mesons of given energy were detected by a method involving identification of the particles from their momentum and range in matter, using a magnetic spectrometer and a detector of pion stoppings, comprising a plastic-scintillation-counter telescope con-

Card 1/3

L 1570-66

ACCESSION NR: AP5019216

taining a copper absorber of fixed thickness. The charged-particle trajectories were traced by the hot-wire method. Positive pions stopped in one of the counters were reliably identified from the $\pi \rightarrow \mu$ decay, which occurred with a characteristic time $\tau_\pi = 2.55 \times 10^{-8}$ sec. Momentum analysis of the particles was performed at 0 and 180°, and at the remaining angles only the stopping detector was used. The mean statistical accuracy was ± (3--4)%. Comparison of the experimental data with a calculation based on dispersion relations (M. I. Adamovich et al., Trudy FIAN v. 34, 1965, in press) and the use of a suitably plotted likelihood function yielded for the $\gamma\pi\rho$ constant a value (0.63 ± 0.11)ef (e = electron charge, f = interaction constant). The square of the interaction constant was found to equal 0.07 ± 0.11. A note added in proof, however, indicates that according to later data the foregoing numerical values are in error. "The authors thank P. A. Cherenkov for collaboration, A. I. Lebedev for a discussion of several problems touched upon in the paper, R. A. Latypova and M. S. Kuchumova for programming the computations, and A. N. Zinevich and K. I. Yablonin for help with the work. "Orig. art. has: 10 figures, 2 formulas, and 2 tables."

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 29Jan65 ENCL: 01 SUB CODE: NP

NR REF SOV: 011 OTHER: 017

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L 1570-66

ACCESSION NR: AP5019216

ENCLOSURE: 01

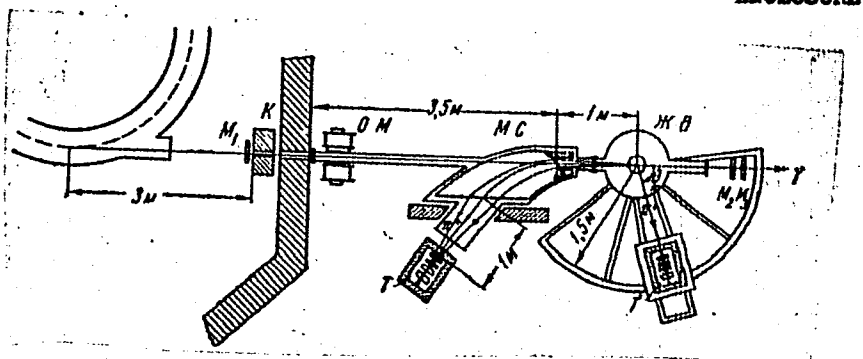

Fig. 1. Schematic diagram of experimental setup. K - lead collimators, ОМ - clearing magnet, МС - magnetic spectrometer, ЖВ - liquid hydrogen target, M_1, M_2, M_3 - monitor ionization chambers, T - scintillation counter telescope.

Card 3/3

L 20704-66 EWT(m)/T

ACC NR: AP6012026 SOURCE CODE: UR/0020/65/160/004/0796/0798

AUTHOR: Aleksandrov, Yu. M.; Grushin, V. F.; Zapevalov, V. A.; Leykin, Ye. M. 53 49 B

ORG: Physics Institute im. P. N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: Photoproduction of Pi sup + -mesons on hydrogen

SOURCE: AN SSSR. Doklady, v. 160, no. 4, 1965, 796-798

TOPIC TAGS: pi meson, synchrotron, scintillation counter, particle accelerator target, liquid hydrogen, angular distribution

ABSTRACT: Theoretical consideration of the contribution made by the resonance $\pi - \pi$ interaction (ρ-meson) to photoproduction amplitudes has made it possible by comparing experimental data with theory -- to obtain the constant $\Lambda_{\gamma\pi\rho}$ of such interaction. The present article deals with the measurement of the angular distribution of π^+-mesons from the reaction $\gamma + p \rightarrow \pi^+ + n$, given $E_\gamma = 230$ Mev. A diagram of the experiment and a block diagram of the apparatus are given. The synchrotron of the Physics Institute imeni P. N. Lebedev of the USSR Academy of Sciences was used, with a liquid-hydrogen target and three scintillation counters. The number of delayed coincidences N_μ during several delays in a triple coincidence channel was measured for each of six angles. An analysis of the spread of individual values of N_μ relative to the mean value $\bar{N}_\mu$, obtained from several dozen measurements, revealed the presence of purely statistical fluctuations. The

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L 20704-66
ACC NR: AP6012026

4

quantity $\bar{N}_\mu$ was scaled to the number of stopped π^+-mesons in the third counter $\tilde{N}_\pi$. The basic results are presented in a table. A comparison of the resulting differential cross-sections with the results of the calculations made by A. I. LEBEDEV and S. P. KHARLAMOV on the basis of the dispersion relations for different values of the constant $\gamma\pi\rho$ makes it possible to obtain an estimate of the quantity $\Lambda\gamma\pi\rho$ (in units of e and f). For this purpose a likelihood function was constructed. This paper was presented by V. I. Veksler on 27 July 1964. The authors thank P. A. Cherenkov for his assistance in completing this work, and also A. I. Lebedev and S. P. Kharlamov for presenting the necessary calculation results. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 20 / SUBM DATE: 28Jun64

Card 2/2 BK

GRUSHIN, V.F.; LATYPOVA, R.A.; LEYKIN, Ye.M.

Calculating the characteristics of Cherenkov gamma-ray spectrometers. Prib. i tekh.eksp. 10 no.5:40-44 S-O '65. (MIRA 19:1)

1. Fizicheskiy institut AN SSSR, Moskva. Submitted June 24, 1964.

L 28056-66 EWT(m)/EWP(e) WH

ACC NR: AP5027005 SOURCE CODE: UR/0120/65/000/005/0040/0044

AUTHOR: Grushin, V. F.; Latypova, R. A.; Leykin, Ye. M.

ORG: Institute of Physics of AN SSSR, Moscow (Fizicheskiy Institut)

TITLE: Calculation of characteristics of Cerenkov gamma spectrometers

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 40-44

TOPIC TAGS: gamma spectroscopy, Cerenkov radiation, Cerenkov counter

ABSTRACT: The calculations were made for the Cerenkov gamma-spectrometer equipped with a radiator made of lead glass of various thicknesses and transparencies and emitting gamma quanta varying from 50 to 1000 Mev. The calculations were based on the gamma shower function $F(G)=\sum_{N=0}^{\infty}\varphi_N\chi^{(N)}(G)$, where φ_N denotes the distribution of the shower of N particles and $\chi^N(G)$ defines the density of light yield distribution characterizing the probability that the sum N of values g amounts to the number G. The values of φ_N and $\chi^{(N)}(G)$ were taken from the previously published papers. The calculations were made for two types of lead glass: Corning-Glass 8392 (or SF-5) and TF-1. Some data on these glasses were given in a table. The Monte Carlo method was used for the calculation of F(G)-distribution by means of an electronic computer. The results of calculation of the sum G were

Card 1/2 UDC: 539.1.074.4

L 28056-66

ACC NR: AP5027005

shown in graphs for the lead glass of two types and of two different thicknesses. On the basis of these results, the energy resolution was calculated. The dependence of this resolution upon the gamma ray energy were graphically illustrated. The curves disclosed the effect of the lead glass thickness upon the resolution rate. On the examination of curves, it was concluded that the F(G) distribution curves acquired an asymmetric shape at lesser thicknesses and greater energies. They were, however, more symmetrically shaped for a less transparent radiator. The results of calculations were compared with the experimental data obtained on three Cerenkov spectrometers in use at the Institute of Physics of AN SSSR. The comparison was favorable. The authors expressed their appreciation to A. S. Belousov for the information given on the parameters and calibration data of the Cerenkov spectrometer. Orig. art. has: 9 graphs, 2 tables and 3 formulas.

SUB CODE: 18 / SUBM DATE: 24June64 / ORIG REF: 006 / OTH REF: 002

Card 2/2 CC

S/076/63/037/003/006/020
B101/B215

AUTHORS: Grushina, V. V., Rodin, A. M. (Moscow)

TITLE: Hydrogen sorption by titanium - zirconium and titanium - molybdenum alloys

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 3, 1963, 559-565

TEXT: Sorption of hydrogen by Ti - Zr and Ti - Mo alloys was conducted at p_{H_2} = 5 mm Hg to p_{H_2} = 60 atm at room temperature by heating to 800°C and cooling to room temperature. The amount of adsorbed hydrogen was determined by measuring the p_{H_2} after the alloy had been heated to 1100°C in vacuo. Results: (1) The amount of absorbed H_2 in Ti - Zr alloys decreases continuously from 455 cm^3 per gram metal in pure Ti to 236 cm^3 per gram in pure Zr as the zirconium content of the alloy increases. The number of H atoms dissolved in the alloy per metal atom remains constant (~1.9). (2) The number of H atoms on sorption of H_2

Hydrogen sorption by titanium - ...

in Ti - Mo alloys is ~1.9 per metal atom up to a molybdenum content of 50% and becomes zero when the Mo content increases to 80%. For 50% Mo, the ratio H : Ti is 2.8. (3) Hydrogen is easily adsorbed by Ti - Mo alloys at room temperature and pure surfaces. Sorption is delayed by adding an inert gas to H_2, and inhibited by air. (4) The thermal stability of structures consisting of hydrogen and Ti - Mo or Ti - Zr is lower than that of structures of hydrogen and pure titanium. There are 7 figures and 2 tables.

SUBMITTED: November 28, 1961

~~16(1)~~ 16.2600

AUTHOR: Grushin, V.V.

SOV/155-58-5-7/37

TITLE: Approximation of Bounded Functions by Differences of Bounded Functions Semicontinuous From Above

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki,1958,Nr 5,pp 31-33 (USSR)

ABSTRACT: The set H is called elementary, if it is representable in the form $F_1 - F_2 + F_3 - \ldots - F_{2_n}$, where all F_k are closed and $F_k \supset F_{k+1}$. The sets A and B are called separable, if there is an elementary set H so that $H \supset A$ and $CH \supset B$.
Theorem : For the existence of bounded functions semicontinuous from above f_1 and f_2 with the property $f_1 - f_2 \geq 1$ on A and $f_1 - f_2 \leq 0$ on B it is necessary and sufficient that the sets A and B be separable.
Theorem : In order that a bounded function φ be representable with an arbitrary exactness by the difference of two bounded functions semicontinuous from above, it is necessary and sufficient that arbitrary two sets $E(\varphi \geq a)$ and $E(\varphi \leq b)$,

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Approximation of Bounded Functions by Differences of Bounded Functions Semicontinuous From Above

SOV/155-58-5-7/37

where $a > b$, are separable.
There is 1 German reference.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 14, 1958

Card 2/2

16(1)

AUTHOR: Grushin, V.V.

SOV/42-14-4-12/27

TITLE: On a Sufficient Condition for the Compactness of the Family of Continuous Functions

PERIODICAL: Uspekhi matematicheskikh nauk, 1959,Vol 14,Nr 4,pp 165-168 (USSR)

ABSTRACT: Theorem: On the interval $[a,b]$ let be given an infinite family $\{f\}$ of continuous functions. Let the following conditions be satisfied:

1. All functions are uniformly bounded $|f(x)| \leq M$;
2. There exists a function $F(t)$, $F(0) = 0$, $F(t) > 0$ for $t > 0$, $F(t) \to \infty$ for $t \to \infty$, with the property that for all functions of $\{f\}$ the integrals are

$$\int_{-M}^{M} F\left[\nu_f(y)\right] dy \leq M,$$

where $\nu_f(y)$ is the number of roots of $f(x) = y$. Then from $\{f\}$ a subsequence can be chosen which converges in all points of $[a,b]$. There is 1 Soviet reference.

SUBMITTED: December 4, 1957

Card 1/1

GRUSHIN, V.V.

Structure of closed ideals in a ring of biperiodic vector differentiable functions. Vest.Mosk. un. Ser.1: Mat., mekh. 16 no. 1:17-23 Ja-F '61. (MIRA 14:3)

1. Kafedra teorii funktsiy i funktsional'nogo analiza Moskovskogo gosudarstvennogo universiteta.
(Functions,Continuous)

GRUSHIN, V.V.

Fundamental solutions to hypoelliptic equations. Usp. mat. nauk 16 no.4:147-153 Jl-Ag '61. (MIRA 14:8)
(Differential equations, Partial)

GORIN, Ye.A.; GRUSHIN, V.V.

Definition of hypoelliptic equations. Usp. mat. nauk 16 no.5:163-166 S-O '61. (MIRA 14:10)
(Differential equations, Partial)

GRUSHIN, V.V. (Moskva)

Canonical regularization of a certain class of functions. Mat. sbor. 54 no.4:397-410 Ag '61. (MIRA 14:8)
(Functions)

S/020/61/137/004/002/031
C111/C222

16.3500

AUTHOR: Grushin, V.V.

TITLE: A certain property of solutions to a hypoelliptic equation

PERIODICAL: Akademiya nauk SSSR. Doklady, vol.137, no.4, 1961, 768-771

TEXT: The author considers the equation with constant coefficients

$$P(i\frac{\partial}{\partial x})u(x) = 0. \qquad (1)$$

He investigates the connection between the growth of the solution u(x) in infinity and the smoothness of u(x).

Theorem 1: If every continuous bounded solution of (1) has continuous derivatives of first order then all real solutions of the equation

$$P(\xi) = 0 \qquad (2)$$

lie in a bounded region of the plane.

Lemma: If every continuous solution u(x) of (1) for which it holds

$$|u(x)| \leq e^{a|x|} \qquad (3)$$

is a one time continuously differentiable function then there exists a constant $C > 0$ so that from $P(s) = 0$, $s = \sigma + i\tau$ and $|\sigma| \leq a$ it follows that $|\tau| \leq C$.

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Theorem 2: If every continuous solution of (1) which satisfies (3) for a certain $a>0$, is a one time continuously differentiable function then the equation (1) is hypoelliptic.

Let (1) be a hypoelliptic equation with the genus γ.

Theorem 3: If $u(x)$ is a solution of the hypoelliptic equation (1), and if

$$|u(x)| \leq Ce^{a|x|^{1/\beta}}, \quad 0 < \beta < 1, \tag{5}$$

then in every bounded region it holds

$$|D^k u(x)| \leq C^k \Gamma\left[\frac{(1-\gamma)}{\gamma} k\right],$$

where $C>0$ is a certain constant.

Conclusion 1: If $u(x)$ satisfies the assuptions of theorem 3, and if $\beta \geq 1-\gamma$ then $u(x)$ is analytic with the order of growth $\leq \frac{\gamma}{\gamma+\beta-1}$.

Conclusion 2: If $u(x)$ is a solution of a hypoelliptic equation, and if $u(x)$ satisfies the condition (3) then $u(x)$ is an entire analytic function of the order of growth not higher than 1.

Conclusion 3: If $u(x)$ is a solution of an elliptic equation, and if (5) is satisfied then $u(x)$ is an entire function with the order of growth $\leq$

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A certain property of solutions...

Theorem 4: If every infinitely often differentiable solution of (1) is a function of the class 1 in the direction y then the vector y is orthogonal to all real solutions of $P_0(\xi) = 0$, where $P_0(s)$ is the principal part of the polynomial $P(s)$.

Theorem 5: In a certain region W let every infinitely often differentiable solution of (1) be a function of the class ξ in the direction y. If y is orthogonal to none real solution of $P_0(\xi) = 0$, where $P_0(s)$ is the principal part of $P(s)$ then $P(s)$ is a hypoelliptic polynomial, and every solution of (1) is a function of the class ξ in an arbitrary other direction.

The author thanks Professor G.Ye.Shilov. There are 3 Soviet-bloc and 1 non-Soviet-bloc references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (Moscow State University im. M.V.Lomonosov)

PRESENTED: October 25, 1960, by P.S.Aleksandrov, Academician

SUBMITTED: October 11, 1960

Card 3/3

GRUSHIN, V.V.

Solutions to partial differential equations with constant coefficients. Dokl. AN SSSR 139 no.1:17-19 Jl '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom P.S. Aleksandrovym.
(Differential equations, Partial)

GRUSHIN, V.V.; PALAMODOV, V.P.

Maximum amount of mutually nonintersecting homeomorphic figures which may be placed in a three-dimensional space. Usp.mat.nauk 17 no.3:163-168 My-Je '62. (MIRA 15:12)
(Topology)

GRUSHIN, V.V.

Some theorems on eliminable singularity. Usp. mat.nauk 17 no.4:111-118 '62. (MIRA 15:8)
(Differential equations)

GRUSHIN, V.V. (Moskva)

Q-hypoelliptic equations. Mat. sbor. 57 no.2:233-240 Je '62. (MIRA 15:6)

(Differential equations)

GRUSHIN, V.V.

On a problem covering the entire space for a certain class of partial differential equations. Dokl. AN SSSR 146 no.6:1251-1254 O '62. (MIRA 15:10)

1. Predstavleno akademikom I.G. Petrovskim.
(Differential equations, Partial)

S/055/63/000/002/001/004
D251/D308

AUTHORS: Gorin, Ye. A., and Grushin, V. V.

TITLE: Differential equations whose solutions are smoothed out on differentiation

PERIODICAL: Moscow. Universitet. Vestnik. Seriya I. Matematika, Mekhanika, no. 2, 1963, 25-32

TEXT: The author considers a class of functions of many variables for which a partial derivative may be smoother than the function itself. Theorem 1. Let G be some finite region and q a non-negative integer. $P(s) = P(s_1,\ldots,s_n)$ is defined as a polynomial in n complex variables $s_j = \sigma_j + i\tau_j$ $(1 \leqslant j \leqslant n)$, and N(P) is the manifold of all complex zeros of P(s). P(D) is defined as the operator

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Differential equations...

$$P(D) = P\left(\frac{1}{i}\frac{\partial}{\partial x_1}, \ldots, \frac{1}{i}\frac{\partial}{\partial x_n}\right).$$

If there exists $k > 0$ such that for every q-times continuously differentiable solution in G of the equation

$$P(D)u(x) = 0 \qquad (4)$$

the function $\partial^k u / \partial x_1^k$ possesses continuous derivatives up to the $(q + 1)$th order, then for the manifold N(P),

$$|\tau| \geq a\,|\sigma|^{\gamma}\,|s_1|^{\gamma_1} - b \qquad (5)$$

where $a, b, \gamma, \gamma_1 > 0$. The proof is based on some general considerations connected with Banach's theorem and on the

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Differential equations...

Seidenberg-Tarski theorem, (A. Seidenberg, Ann. Math. Ser. v. 60, 2, 1954, 365-374; Ye. Y. Gorin, UMN, no. 1, 1961, 91-118), and on the application of a Fourier transformation and Cauchy's theorem. Hence, Theorem 2: If on the manifold $N(P)$ the inequality Eq. (5) is satisfied, then any solution of Eq. (4) will be smoothed on differentiation with respect to x_1.

Theorem 3. If the conditions of Theorem 2 hold, then for $u(x)$ to be smoothed on differentiation with respect to x_1 it is necessary and sufficient that $\psi(x) = P(D)u(x)$ is smoothed on differentiation with respect to x_1. There is 1 figure.

[Abstracter's note: In the formula for s_j, $(1 \leqslant j \leqslant n)$ is incorrectly given as $(1 \leqslant i \leqslant n)$.]

ASSOCIATION: Kafedra teorii funktsiy i funktsional'nogo analiza (Department of the Theory of Functions and Functional Analysis)

SUBMITTED: May 7, 1962

S/020/63/148/006/001/023
B112/B186

AUTHOR: Grushin, V. V.

TITLE: Smoothness extension for solutions to differential equations of the principal type

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 6, 1963, 1241-1244

TEXT: Partial differential equations

$$P(\partial/i\partial x_1, \dots, \partial/i\partial x_n)u(x_1, \dots, x_n) = 0 \qquad (1)$$

with constant coefficients are considered for which the following two conditions have to be fulfilled: I. The characteristic polynomial $P(\sigma_1, \dots, \sigma_n)$ has real coefficients. II. grad $P_0(\sigma) \neq 0$ if $\sigma = (\sigma_1, \dots, \sigma_n) \neq 0$, where P_0 is the principal part of P. The following two theorems are derived: (1) Any solution of Eq. (1) which is differentiable without limitation in the neighborhood of a closed set $W \subset V$, $\dot{V}$ being the boundary of a region V, will be differentiable without

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limitation in a certain neighborhood of the origin if and only if each bicharacteristic line contains at least one point of the set W. (2) Let B be the interaction of the cone of bicharacteristic lines and the unit sphere, and let H be a closed subset of B such that any bicharacteristic line has not more than one point in common with H. Then a fundamental solution of (1) exists within the cone that is formed by the lines from the origin to the points of the set $B \setminus H$.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: September 21, 1962, by I. G. Petrovskiy, Academician

SUBMITTED: September 11, 1962

DIKOPOLOV, G.V. [deceased]; GRUSHIN, V.V.; ESKIN, G.I.

Boundary value problems for differential equations with constant coefficients in a half-space. Mat. sbor. 59 (Supp.):215-228 '62. (MIRA 16:6)

(Boundary value problems) (Differential equations)

GRUSHIN, V.V. (Moskva)

Conditions of the Sommerfeld type for a certain class of partial differential equations. Mat. sbor. 61 (103) no.2:147-174 Je '63. (MIRA 16:10)

GRUSHIN, V.V.

Behavior of solutions to differential equations near the boundary. Dokl. AN SSSR 158 no.2:264-267 S '64. (MIRA 17:10)

1. Predstavleno akademikom I.G.Petrovskim.

L 22106-66 EWT(d) IJP(c)

ACC NR: AP6012668 SOURCE CODE: UR/0039/65/066/004/0525/0550

AUTHOR: Grushin, V. V. (Moscow)

ORG: none

TITLE: Relation between local and global properties of solutions to hypoelliptic equations with constant coefficients

SOURCE: Matematicheskiy sbornik, v. 66, no. 4, 1965, 525-550

TOPIC TAGS: differential equation, analytic function, Cauchy problem

ABSTRACT: The infinitely differentiable function $u(x_1, \ldots, x_n)$ in region Ω belongs to Gevrey class G^{α} if for each compactum $K \subset \Omega$ it is possible to find a constant C such that, given $(x_1, \ldots, x_n) \in K$ and all $m > 0$,

$$|D^m u(x_1, \ldots, x_n)| \leqslant C^m m^{m\alpha}.$$

Here D^m is any derivative of order m. Each analytic function $v(z)$ $(z = x_1 + ix_2)$, for example, belongs to class G^1. The Gevrey class of an integral analytic function is closely connected with the order of increase of this function. Since analytic functions are solutions of the Cauchy-Riemann system which may be written as one equation

$$\frac{\partial v}{\partial x_1} + i\frac{\partial v}{\partial x_2} = 0,$$

a question arises as to the description of an entire class of differential equations whose solutions possess an analogous property. The article indicates that such a

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class is a class of hypoelliptic equations. The purpose of the article is to show that this class depends essentially on the increase of the function u at infinity; viz., that the slower the increase of the solution u at infinity, the better are its local properties. This property of solutions to hypoelliptic equations was noted in an earlier article by the author, who in this article presents a detailed proof and refinement of the earlier result. He does this by considering Gevrey classes in each variable separately and by studying, in addition to the equation $Pu = 0$, an equation with the right-hand side $Pu = f$, although using basically the same method of proof based on the study of fundamental solutions and on the mean value theorem.

In section 2 of the article he evaluates from the inequality

$$|\tau| = |\tau_k| \geqslant a|\sigma_k|^{\frac{1}{p}} - b,$$

the lower limit for $|P(s)|$, where $P(s)$ is the characteristic polynomial of the partial differential equation

$$P(D)u(x) = f(x). \qquad (1.1)$$

He also calculates the indices of hypoellipticity $\gamma\frac{k}{p}$ for quasi-elliptic equations introduced by L. R. VOLEVICH. It is proved that the indices $\gamma\frac{k}{p}$ of a quasielliptic polynomial possess a certain extremum property.

Section 3 establishes fundamental solutions of hypoelliptic equations. It is shown that for any fundamental solution $\mathcal{E}(x)$ belonging to S' there exist constants $C>0$ and $L>0$ such that, given $x_k \neq 0$ $(1 \leqslant k \leqslant n)$ and $(\alpha+1,\ q_k \neq m_k$,

$$|D^{\alpha}\mathcal{E}(x)| < \frac{C^{|\alpha+1|}(\alpha+1,\ q_k)^{(\alpha+1,\ q_k)}}{|x_k|^{(\alpha+1,\ q_k)-m_k}} + C^{|\alpha+1|}(1+|x|^l),$$

where $\alpha+1$ and q_k are vectors $\alpha+1=(\alpha_1+1,\ \ldots,\ \alpha_n+1)$, $q_k=\left(\frac{1}{\gamma_1^k},\ \ldots,\ \frac{1}{\gamma_n^k}\right)$,

and m_k is the order of equation (1.1) in variable x_k. Especially important is the fact that all solutions of the hypoelliptic equation

$$P(D)u(x)=0 \qquad (1.2)$$

belong to some Gevrey class.

Section 4 indicates that the Gevrey class of solutions of hypoelliptic equation (1.2) is essentially improved if this solution is defined in an entire space and has an exponential increase at infinity. The fundamental result is as follows: Let there be a solution of hypoelliptic equation (1.2), defined for all $x \in R_n$. If the inequality

$$|u(x)| < A\exp\left(a\sum_{l=1}^{n}|x_l|^{\frac{1}{1-\beta_l}}\right)$$

holds where $A>0, \alpha>0$, $0 \leqslant \beta_j < 1$, then

$$\left|\frac{\partial^k u(x)}{\partial x_p^k}\right| < C_1^{k+1}\left[\exp\left(a_1 \sum_{j=1}^{n} |x_j|^{\frac{1}{1-\beta_j}}\right)\right] \sum_{j=1}^{n} (k+1)^{\frac{k+1}{\gamma_p^j}\beta_j},$$

where γ_p^j are the indices of hypoellipticity. An analogous evaluation also occurs when the solution $u(x)$ is defined in some cylinder. Also proved are converses of the theorem: viz., that for solutions of non-hypoelliptic equations no conclusions on the smoothness of the solution $u(x)$ can be drawn from the relation

$$|u(x)| < A\exp(a|x|),$$

given a sufficiently large $\alpha > 0$.

The author notes the work of V. P. PALAMODOV and J. FRIBERG (on hypoelliptic and partially hypoelliptic equations.) The author thanks G. Ye. Shilov for constant attention to the work and for a series of valuable comments. Orig. art. has: 68 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: 28Dec63 / ORIG REF: 010 / OTH REF: 003

Card 4/4 BLG

GRUSHINA, A. A.

PA 41T89

USSR/Medicine - Ascariasis Jan/Feb 1948
Medicine - Pathology

"A Case of Metastatic Ascaridosis," A. A. Grushina, Chair of Pathol Anat, Second Moscow Med Inst imeni Stalin, 1½ pp

"Arkhiv Patol" Vol X, No 1

This phenomenon is very rare. Only other is mentioned by Boettiger, describing two cases of ascaridosis. Grushina describes the clinical symptoms of one case of a 60-year-old woman, who died of a general septic infection, the direct result of ascaridosis. Submitted, 5 Nov 1946. Director of Chair of Pathological Anatomy is Prof I. V. Davydovskiy, Active Member, Academy of Medical Sciences of USSR.

41T89

Grushina, A.A.

The effect of triethylenimidephosphoric acid (TEP) on the metabolism of nucleic acids (ribonucleic and deoxyribonucleic) in the transplantable rat sarcoma 45. A. A. Grushina. *Voprosy Onkologii* 1, No. 4, 51-9(1955).—Expts. were performed with 40 white rats with transplanted sarcoma 45. On the 4th day, when the transplants became palpable, 20 of the rats began to receive daily 2.5 mg. of TEP/kg. subcutaneously in physiol. soln. After the 1, 2, 3, 4, 5, 6, 7, and 13th injection of TEP exptl. and control animals were decapitated and the cancer and some organs removed. An arrest in the growth of all the sarcomas was observed in the treated animals. The histological distribution of ribonucleic acid (I) and of deoxyribonucleic acid (II) in the tissues is described. TEP in its effect on the metabolism of I and II acts in a manner similar to x-rays, which reduce the concn. of I and II in a variety of malignant tumors.

B. S. Levina

Cand. Med. Sci.; Moscow 88-2h, Sharikopodshipnikovskaya ul., Korp. 4, kv. 188 Lab. Chemotherapy of Cancer, Dept. Chemotherapy, All-Union Sci. Res. Chemico-Pharmaceutical Inst. im. S. Ordzhonikidze.

GRUSHINA, A.A.

Effects of triethylenephosphoramide on the activity of acid adn alkali glycarophosphatase in transplantable rat sarcoma "45" [with summary in English]. Vop.onk. 3 no.3:295-300 '57. (MLRA 10:8)

1. Iz laboratorii eksperimental'noy khimioterapii opukholey (zav. - kandidat biologicheskikh nauk V.A.Chernov) otdela khimioterapii (zav.- prof. G.N.Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta im. S.Ordzhonikidze (dir. - prof. M.V.Rubtsov. Adres avtora: Moskva, G.21, Zubovskaya ul. d.7. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze

(CYTOTOXIC DRUGS, eff.
triethylene phosphoramide on acid & alkali glycarophosphatase activity in transplantable rat sarcoma 45 (Rus))
(PHOSPHATASES, metab.
eff. of triethylene phosphoramide on acid & alkali glycerophosphatase activity in transplantable rat sarcoma 45 (Rus))

CHERNOV, V.A.; GRUSHINA, A.A.; ZAKHAROVA, Zh.F.

Anti-tumor activity of ethyleneimine derivatives. Vop.onk. 5 no.9: 350-361 '59. (MIRA 12:12)

1. Iz laboratorii eksperimental'noy khimioterapii opukholey (rukovoditel' - kand.biol.nauk. V.A. Chernov) otdela khimioterapii (rukovoditel' - prof. G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta im. S. Ordzhonikidze. Adres avtorov: Moskva, G021, Zubtsovskaya ul., 7, Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonokidze.

(ANTINEOPLASTIC AGENTS pharmacol.)

POLEZHAYEVA, A.I.; GRUSHINA, A.A.

Pharmacology of dipin. Farm.i toks. 22 no.6:533-538 N-D '59.
(MIRA 13:5)

1. Otdel farmakologii (zav. - prof. M.D. Mashkovskiy) i laboratoriya khimioterapii eksperimental'nykh opukholey (rukovoditel' - kand.biolog.nauk V.A. Chernov) otdela khimioterapii (zav. - prof. G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S. Ordzhonikidze.
(PIPERAZINE)

PERSHIN, G.N.; NOVITSKAYA, N.A.; GRUSHINA, A.A.

Potentiation of the effect of diethylstilbestrol on the mammary gland in rabbits under the influence of 3-methyl-5-phenylpyrazole (phemerazole). Biul. eksp. biol. i med. 51 no.5:74-76 My '61. (MIRA 14:8)

1. Iz Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze (dir. - prof. M.V. Rubtsov), Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR G.V. Vygodchikovym.

(PYRAZOLE) (BREAST) (STILBENEDIOL)

KRAVCHENKO, A.I.; GRUSHINA, A.A.

Antitumor activity of chlorambucil in an experiment. Vop.onk. 7 no.5:72-77 '61. (MIRA 15:1)

1. Iz laboratorii eksperimental'noy khimioterapii opukholey (rukovod. - kand.biol.nauk V.A. Chernov) Otdela khimioterapii (zav. - prof. G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S. Ordzhonokodze.
(CHLORAMBUSIL)

CHERNOV, V.A.; GRUSHINA, A.A.

Antiblastic (antileukemic) action of thiodipin in an experiment. Probl.gemat.i perel.krovi no.2:3-8 '62. (MIRA 15:1)

1. Iz laboratorii eksperimental'noy khimioterapii opukholey (zav. - V.A. Chernov), otdela khimioterapii (zav. - prof. G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S. Ordzhonikidze.
(CYTOTOXIC DRUGS)

TAREYEVA, A.I.; GRUSHINA, A.A.

Effect of thiodipin on the organism of experimental animals. Farm. i toks. 24 no.6:732-738 N-D '61. (MIRA 15:11)

1. Laboratoriya farmakologii (zav. - prof. M.D.Mashkovskiy) i laboratoriya khimioterapii eksperimental'nykh opukholey (rukovoditel'- kand.biologicheskikh nauk V.A.Chernov) otdela khimioterapii (zav. - prof. G.N.Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze.
(PIPERAZINE) (CYTOTOXIC DRUGS)

CHERNOV, V.A.; GRUSHINA, [illegible]; LYTKINA, [illegible]

Antineoplastic activity of phosphazine. Farm. i toks. 26 no.1: 102-108 Ja-F '63. (MIRA 17:3)

1. Laboratoriya eksperimental'noy khimioterapii opukholey (rukovoditel'-doktor med. nauk V.A. Chernov) otdela khimioterapii (rukovoditel' - chlen-korrespondent AMN SSSR prof. G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni [illegible]. Ordzhonikidze.

TAREYEVA, A.I.; ZAYTSEVA, K.A.; GRUSHINA, A.A.

Effect of phosphazine on experimental animals. Farm. i toks. 26 no.4:455-460 Jl-Ag'63 (MIRA 17:4)

1. Laboratoriya farmakologii (zav. - chlen-korrespondent AMN SSSR prof. M.D. Mashkovskiy) i laboratoriya khimioterapii eksperimental'nykh opukholey (rukovoditel' - doktor med. nauk V.A. Chernov) otdela khimioterapii (zav. - chlen-korrespondent AMN SSSR prof. C.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni Ordzhonikidze, Moskva.

DOZORTSEVA, P.M.; KHRAMCHENKOVA, S.P.; GRUSHINA, A.A.

Pharmacology of aristolochic acid. Farm. i toks. 28 no.1:74-77 Ja-F '65. (MIRA 18:12)

1. Laboratoriya biokontrolya (zav. - kand.med.nauk Yu.I. Syrneva) i laboratoriya eksperimental'noy khimioterapii opukholey (rukovoditel' - doktor med.nauk V.A.Chernov) otdela khimioterapii (rukovoditel' - chlen-korrespondent AMN SSSR prof. G.N.Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze, Moskva. Submitted October 8, 1963.

PAVLOTSKAYA, Ye.V.; GRUSHINA, A.G.; SMIRNOVA, N.I.

Clinical aspects of spongioblastomas. Zhur.nevr.i psikh. 61 no.10: 1493-1496 '61. (MIRA 15:11)

1. Kafedra nervnykh bolezney (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent S.A.Mel'nikov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.
(ASTROCYTES--TUMORS)

AREF'YEVA, V.N.; GRUSHINA, A.G.

Myopathic syndrome in dermatomyositis. Trudy 1-go MMI 24: 77-84 '63 (MIRA 17:3)

VENEDIKTOVA, M.G.; KOLOMEYSKAYA, Ye.A.; GRUSHINA, A.G.

Changes in the cardiovascular system in myasthenia. Trudy 1-go MMI 24:169-176 '63 (MIRA 17:3)

GRUSHINA, A.G.

State of proteins of the central nervous system in lateral amyotrophic sclerosis. Zhur. nevr. i psikh. 64 no.9:1305-1309 '64. (MIRA 17:12)

1. Kafedra nervnykh bolezney (zaveduyushchiy - prof. V.V. Mikheyev) I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M. Sechenova i laboratoriya biogistokhimii (zaveduyushchiy prof. V.V. Portugalov) Instituta mozga AMN SSSR, Moskva.

MIKHEYEV, V.V., prof.; SHTUL'MAN, D.R., assistent; GRUSHINA, A.G., assistent

Clinical anatomical analysis of a case of discogenic cervical myelopathy with a pattern of amyotrophic lateral sclerosis. Trudy 1-go MMI 38:117-127 '65. (MIRA 18:10)

GRUSHINA, A.G., assistant

Histopathology of hernias of the lumbar disks. Trudy 1-go MMI 38:277-280 '65. (MIRA 18:10)

KASYMOVA, Z.S., assistent, GRUSHINA, L.V., assistent

Functional state of the liver in subtropical anemias. Trudy Stal. med.inst. 16:95-103 '55 (MIRA 11:8)
(ANEMIA)
(LIVER)

L 07925-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6033385 SOURCE CODE: UR/0075/66/021/008/0980/0984

AUTHOR: Grushina, N. V.; Tsevun, V. I.; Khrapchenkova, G. V.; Yerdenbayeva, M. I.; Kozin, L. F.

ORG: Institute of Chemical Sciences, AN KazSSR, Alma-Ata (Institut khimicheskikh nauk AN KazSSR)

TITLE: Determination of impurities in high-purity cadmium

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 8, 1966, 980-984

TOPIC TAGS: cadmium, cadmium metal, impurity determination, high purity cadmium, cadmium nitrate

ABSTRACT: A method has been developed for the spectrochemical determination of 10^{-4}—10^{-5}% impurities in cadmium after their concentration by coprecipitation with cadmium diethyldithiocarbamate. The method was applied to the analysis of high-purity cadmium metal and cadmium nitrate. The relative experimental error is ±25%. Orig. art. has: 2 figures and 3 tables. [Authors' abstract]

SUB CODE: 07/ SUBM DATE: 23Nov64/ ORIG REF: 007/ OTH REF: 001/

Card 1/1 vmb

KOZLOVSKIY, M.T.; GRUSHINA, N.V.

Chronometric method for the determination of bismuth. Zhur. anal. khim. 18 no.5:585-587 My'63. (MIRA 17:2)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova, Alma-Ata.

YEPIFANOVA, O.I.; ZOSIMOVSKAYA, A.I.; LOMAKINA, L. Ya; GRUSHINA, N.V.; SMOLENSKAYA, I.N.

Comparative study of the duration of mitosis and interkinesis in tissues of mice with the aid of colchicine and irradiation. Biul.eksp.biol. i med. 55 no.1:96-100 Ja'63. (MIRA 16:7)

1. Iz laboratorii eksperimental'noy tsitologii i tsitokhimii Instituta radiatsionnoy i fiziko-khimicheskoy biologii (dir. akademik V.A.Engel'gardt) AN SSSR Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.A.Engel'gartom.
(KARYOKINESIS) (COLCHICINE—PHYSIOLOGICAL EFFECT)
(RADIATION—PHYSIOLOGICAL EFFECT)

FILYAYEV, Vladimir Yakovlevich; GRUSHINA, Polina Vasil'yevna; SYZRANTSEV, A.L., redaktor; AL'TMAN, T.E., tekhnicheskiy redaktor.

[Restoration of wells by cutting out and sinking a second shaft] Vosstanovlenie skvazhin metodom zarezki i provodki vtorogo stvola. Baku, Azerbaidzhanskoe gos. izd-vo neftianoi i nauchno-tekhn. litry, 1955. 39 p. [Microfilm] (MLRA 9:6)

(Oil wells--Repairing)

ACCESSION NR: AP4017633 S/0190/64/006/002/0231/0236

AUTHORS: Shibayev, V. P.; Plate, N. A.; Grushina, R. K.; Kargin, V. A.

TITLE: Structuration in chlorinated polyethylene and its solutions

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 2, 1964, 231-236

TOPIC TAGS: polymer, polymer structure, polyethylene, chlorinated polyethylene, supermolecular structure, chlorobenzene solution, crystalline structure, gaseous crystalline state, spherulite, bundle, amorphous state, primary morphological form, ordered morphological form

ABSTRACT: A high-crystalline fraction of polyethylene was used (molecular weight of 260 000) which was obtained by removing the low-molecular fractions by boiling in carbon tetrachloride and double recrystallization in chlorobenzene. The samples were chlorinated by means of a saturated solution of chlorine at 115, 125, and 130C, under incandescent lamplight. The resulting products were either fully or partly soluble in chlorobenzene (the insoluble part was purified by methanol precipitation from toluene solutions). Polyethylene samples with a chlorine content of 3 to 50% were obtained: these were subjected to x-ray and electron microscopic studies in m-xylene solutions and in crystalline structures obtained therefrom. It was found

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ACCESSION NR: AP4017633

that the chlorinated polyethylene compounds obtained at 115 and 125C were not homogeneous in their composition, the cold chlorobenzene soluble fraction containing 14.0 and 17.9% of chlorine, while the chlorobenzene insoluble fraction contained 8.2 and 7.0% of chlorine, respectively. Only at a reaction temperature of 130C, which corresponds to the melting point of the crystalline polyethylene, did the chlorinated product become fully soluble. The samples of polyethylene containing up to 8% chlorine possessed the ability to crystallize and to form spherulites and monocrystals, while the samples with a higher chlorine content revealed structures indicating a gaseous-crystalline state. At a 50% chlorine content the polyethylene acquired an amorphous structure. Orig. art. has: 1 chart, 2 tables, 8 electronmicroscope pictures, and 1 x-ray picture.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 01Nov62 DATE ACQ: 23Mar64 ENCL: 00

SUB CODE: CH NO REF SOV: 008 OTHER: 010

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[redacted].

New developments in the assortment of the products of the fur industry. Kozh.-obuv. prom. 7 no.1:6-7 Ja '65.

(MIRA 18:2)

GRECHINA, V. V.; RODIN, A. M. (Moskva)

Sorption of hydrogen by titanium-zirconium and titanium-molybdenum alloys. Zhur. fiz. khim. 37 no. 3:559-565 Mr '63. (MIRA 17:5)

GRUSHINA, V.V. (Moskva); RODIN, A.M. (Moskva); SAVITSKIY, Ye.M. (Moskva); BURKHANOV, G.S. (Moskva)

Hydrogen sorption by Ti-Ni, Ti-Cr and Ti-Al alloys. Izv. AN SSSR. Met. no.6:148-152 N-D '65. (MIRA 19:1)

1. Submitted September 14, 1965.

L 43100-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/HW/JG/JH

ACC NR: AP6014120 (N) SOURCE CODE: UR/0370/65/000/006/0148/0152

AUTHORS: Grushina, V. V. (Moscow); Rodin, A. M. (Moscow); Burkhanov, G. S. (Moscow); Savitskiy, Ye. M. (Doctor of chemical sciences)(Moscow)

ORG: none

TITLE: Sorption of hydrogen by Ti-Ni, Ti-Cr, and Ti-Al alloys

SOURCE: AN SSSR. Izvestiya. Metally, no, 6, 1965, 148-152

TOPIC TAGS: titanium containing alloy, chromium containing alloy, aluminum containing alloy, hydrogen

ABSTRACT: The sorption of hydrogen by the titanium alloys: Ti—Ni (from 5 to 70 wt % Ni), Ti—Cr (from 4.3 to 78.5 wt % Cr), and Ti—Al (from 5—30 wt % Al) was studied. The investigation supplements the results of V. V. Grushina, and A. M. Rodin (Zh. fiz. khimii, 37, 1963, No. 3, 559). A schematic of the experimental apparatus is shown. The experimental results are presented graphically (see Fig. 1). It was found that the absorption of hydrogen by the alloys was strongly dependent on the nature of the solid solutions formed in the alloy. The liberation of hydrogen from hydrogenated titanium alloys at 200—1050C is more rapid than that from hydrogenated titanium.

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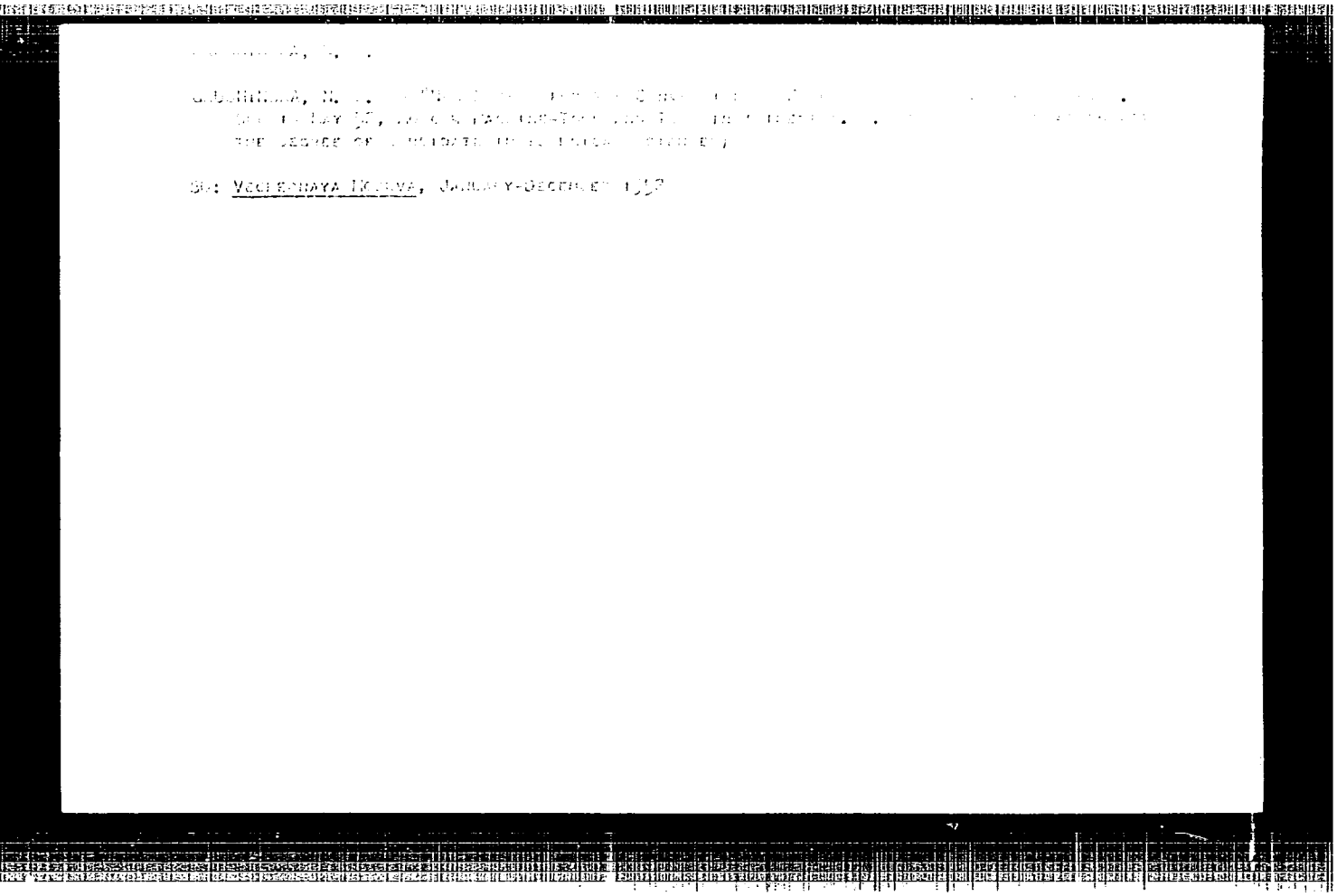
UDC: 669.295



GRUSHINSKAYA, Nadezhda Konstantinovna; ILLICHEVSKIY, S.A., red.; OKOPNAYA, Ye.D., tekhn. red.

[Textbook for solving problems in descriptive geometry] Posobie k resheniiu zadach po nachertatel'noi geometrii. Kiev, Izd-vo Kievskogo univ. 1963. 62 p. (MIRA 16:10)
(Geometry, Descriptive—Problems, excercices, etc.)

GRUSHINSKIY, N. P.

25508. Ob Ispol'zovanii Gravimetrov Dlya Opredelenniya Punktov I i II Klassov. Sbornik Nauch.--Tekhn. I Proizood. Statey Po Geodezii, Kartografii, Topografii, Aeros''Yemke I Gravimetrii, UYP. 23, 1949, s. 16-21

SO: Letopis' Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

GRUSHINSKIY, N. P.

Grushinskiy, N. P. "On the dynamic temperature effect in the gravimeter," Trudy Tsentr. Nauch.-issled. In-ta geodezii, aerosyemki i kartografii, Issue 51, 1948, p. 117-34

SO: U-3264 10 April, 1953 (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

GRUSHINSKIY, N. P.

"The Temperature Dynamic Effect in Gravimetry," Works of the Central Scientific-Research Institute of Geodesy, Aerial Surveying, and Cartography. No 51, Gravimetric Studies, 1948, p. 112.

Abstract, W-13387, 7 Sep 50

GRUSHINSKIY, N.P.

Systematization of gravity survey data and the creation of a standard gravity measuring network. Razved.i prom.geofiz. no.17:60-65 '57. (MIRA 10:12)

(Gravity--Measurement)

AUTHOR: Grushinskiy, N. P. 512

TITLE: On interpolation and representation errors in detailed gravimetric surveys, the accuracy of charts, and the rational distribution of stations. (Ob oshibkakh interpolyatsii i predstavitel'stva detal'nykh gravimetricheskikh s"yemok, tochnosti kart i tselesoobraznom razmeshchenii punktov).

PERIODICAL: "Astronomicheskiy Zhurnal" (Journal of Astronomy), 1957, Vol.34, No.2, pp. 267 - 275 (USSR).

ABSTRACT: It is shown that the interpolation error in detailed gravimetric surveys is, as a rule, approximately 1.5 times smaller than the representation error. The interpolation errors in detailed gravimetric surveys on a plane, can be computed from the empirical formulae

$$\bar{E} = 0.3\, x^{0.7}$$

where x is the mean distance between stations (km) and $\bar{E}$ - mean interpolation error (mgl). These results are based on very extensive data. For example, in the calculation of the interpolation errors, charts were used having 2000 - 3000, or more, stations, and covering areas of 3 - 20 thousand km^2.
7 tables, 5 Russian references.

State Astronomy Institute
imeni P. K. Shternberg. Recd. July 19, 1956.

GRUSHINSKIY, N.P.

AUTHOR: Grushinskiy, N.P.

TITLE: The fundamental gravimetric station at the Sternberg Astronomical Institute. (Fundamentalnyy Gravimetricheskiy Punkt GAISh)

PERIODICAL: "Astronomicheskiy Zhurnal" (Journal of Astronomy), 1957, Vol.34, No.3, pp. 469-473 (U.S.S.R.)

ABSTRACT: A fundamental gravimetric station has been established at the Sternberg Astronomical Institute on Lenin Hills. The following values were obtained:

g = 981 550.0 ± 0.75 mgl (Moscow Aerogeodetic Organisation) (MAGP)
g = 981 519.5 ± 0.75 mgl (Gravimetric Lab. on Lenin Hills; Potsdam system) (GAISh)
g = 981 520.5 ± 10.75 mgl (Gravimetric basement on Lenin Hills; Potsdam system)

There are 6 tables and 1 figure.

ASSOCIATION: State Astronomical Institute im. P.K. Shternberg. (Gos. Astronomicheskiy Institut im.P.K. Shternberg)

SUBMITTED: June 19, 1956.

AVAILABLE: Library of Congress

Card 1/1

3(6)
AUTHOR: Grushinskiy, N.P. SOV/55-58-5-8/34

TITLE: On the Gravimetric Investigation of the Mountainous Crimea and the Determination of Exact Gravimetric Points in the District of Yalta, Alushta, Simferopol' (O gravimetricheskom issledovanii gornogo Kryma i opredelenii tochnykh gravimetricheskikh punktov v rayone Yalta, Alushta, Simferopol')

PERIODICAL: Vestnik Moskovskogo universiteta,Seriya matematiki, mekhaniki, astronomii, fiziki, khimii ,1958,Nr 5,pp 49 - 54 (USSR)

ABSTRACT: This is a report on the activitiy of the gravimetric group of the Moscow State University in summer of 1955 in Crimea. Participators were : the author, N.G. Koreneva and K.Ya. Kozyakova. The aim was the investigation of the motion of the earth's crust in the mountains of Crimea. The preliminary result is the very exact determination of the gravitational force and of the height in a series of points on the routes Yalta - Alushta, Simferopol' - 50-th kilometer of the Moscow road. The results were compared with earlier data and opinions of M.V. Muratov and N.I. Nikolayev. An analysis of earlier measurings was carried out by M.I. Sinyagina.

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On the Gravimetric Investigation of the Mountainous Krym and the Determination of Exact Gravimetric Points in the District of Yalta, Alushta, Simferopol' SOV/55-58-5-8/34

There are 2 tables, 1 map, and 4 Soviet references.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii (Chair of Celestial Mechanics and Gravimetry)

SUBMITTED: May 19, 1958

GRUSHINSKIY, N.P.

Measuring time in determining the gravity by pendulum instruments on shipboard. Astron. tsir. no.191:25-27 My '58. (MIRA 11:9)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga, Moskva.
(Gravity--Measurement) (Time--Measurement)

GRUSHINSKIY, N.P.;SAZHINA, N.B.

Determining the absolute value of the force of gravity. Vest Mosk. un. Ser. mat., mekh., astron., fiz., khim. 14 no.2:61-68 '59
(MIRA 13:3)

1. Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo gosuniversiteta.

(Gravity)

3(6),20(5),20(4)

AUTHORS: Grushinskiy,N.P., and Yepishin,I.A. SOV/33-36-1-23/31

TITLE: Special Quartz Clocks for Gravimetric Measurements, Their Use on the Diesel-Engine Ship "Ob" During the Antarctic Expedition of 1956-1957

PERIODICAL: Astronomicheskiy zhurnal, 1959,Vol 36,Nr 1,pp 172-178 (USSR)

ABSTRACT: The authors describe a transportable quartz clock made in the gravimetric laboratory of the Shternberg Astronomical Institute. The applications of the clock during the voyage are discussed and it is stated that it satisfies all the requirements of gravimetric determinations.
There are 8 tables.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga (State Astronomical Institute imeni P.K.Shternberg)

SUBMITTED: December 20, 1957

Card 1/1

3/035/61/000/006/042/044
A001/A101

AUTHOR: Grushinskiy, N.P.

TITLE: On conditions of gravimetric measurements on diesel-electric ship "Ob'" during antarctic voyages

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 6, 1961, 31-32, abstract 6G257 ("Inform. byul. Sov. antarkt. ekspeditsii", 1960, no. 17, 18 - 21)

TEXT: The second marine antarctic expedition has established that gravimetric observations on expedition ships of the "Ob'" type (displacement is 12,000 tons) yield reliable results at sea roughness up to point 3. Observational conditions essentially improve when the ship penetrates into drifting ice. In subantarctic seas, gravimetric measurements proved to be reliable in 10% of the voyage time. During navigation in ice, the duration of favorable time increases sharply. It was found out from the readings of the vertical accelerometer at several points of the ship, that the pendulum instrument should be installed in the hold, next to the gyrocompass section.

P. Shokin

[Abstracter's note: Complete translation]

Card 1/1

GRUSHINSKIY, N.P.

Analysis of the effect of depth on anomalies of oceanic regions. Vest. Mosk. un. Ser.3: Fiz., astron. 15 no. 5:81-93 S-O '60. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet, kafedra nebesnoy mekhaniki i gravimetrii.
(Magnetic anomalies) (Submarine topography)

S/169/62/000/001/009/083
D228/D302

AUTHOR: Grushinskiy, N. P.

TITLE: Trial application of a gravimeter with a strongly damped system

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 21-22, abstract 1A167 (Inform. byul. Sov. antarkt. ekspeditsii, no. 21, 1960, 42-43)

TEXT: An experimental model of the ГКОМ-3 (GKOM-3) damped marine gravimeter of K. Ye. Veselov's system was used for observing the force of gravity on a surface ship simultaneously with pendulum determinations. The observations gave the following result: A gravimeter of this design is suitable for determining the force of gravity on surface ships of the "Ob'" type. Observations are possible under greater pitching and vibration than is permissible for pendulums. The joint use of the data of pendulum and gravimeter determinations provides material for taking into account the shift of the zero-point. [Abstractor's note: Complete translation.]

Card 1/1

GRUSHINSKIY, Nikolay Panteleymonovich; FEDYNSKIY, Vsevolod Vladimirovich, prof., retsenzent; ALEKSANDROV, Sergey Yefimovich, dots., retsenzet; NOSYREVA, I.A., red.; LAZAREVA, L.V., TEKHN. RED.

[Introduction to gravimetry and gravity prospecting] Vvedenie v gravimetriiu i gravimetricheskuiu razvedku. Moskva, Izd-vo Mosk. univ., 1961. 205 p. (MIRA 15:2)
(Gravity prospecting)

ACCESSION NR: AT4038536 S/2623/61/000/119/0003/0025

AUTHOR: Grushinskiy, N. P.

TITLE: Relationship between the Mohorovicic discontinuity, relief and gravity anomalies

SOURCE: Moscow. Univ. Gos. astron. Inst. Soobshch., no. 119, 1961, 3-25

TOPIC TAGS: Mohorovicic discontinuity, gravity anomaly, geology, Bouguer anomaly, Faye anomaly

ABSTRACT: A study has been made of the problem of the dependence of local relief and gravity anomalies on the depth of the Mohorovicic discontinuity. In contrast to the usual approach to the solution of this problem, the problem is solved for averaged relief and averaged anomalies. The averaging is accomplished over areas equivalent to one square degree at the equator. An appropriate dependence is found for the individual continents and oceans. The dependence of averaged Bouguer anomalies on averaged relief has been derived on the basis of massive statistical data. The dependence is approximated by segments of a straight line. It is shown that in plains areas of the continents and shallow parts of the oceans the relationships derived for anomalies are identical to the dependence on relief. It is shown further that there is no relationship between the depth of the Mohorovicic

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ACCESSION NR: AT4038536

discontinuity and Faye anomalies. A high degree of isostatic compensation of the crust is demonstrated. Orig. art. has: 15 formulas, 11 figures and 5 tables.

ASSOCIATION: Gosudarstvenny*y astronomicheskiy institut Moskovskogo universiteta (State Astronomical Institute of Moscow University)

SUBMITTED: 00	DATE ACQ: 18Jun64	ENCL: 00
SUB CODE: ES	NO REF SOV: 012	OTHER: 003

Card 2/2

S/035/62/000/003/042/053
A001/A101

AUTHORS: Chesnokova, T. S., Grushinskiy, N. P.

TITLE: Gravimetric determinations in the Greenland Sea carried out from the Diesel electric-driven ship "Ob'" in 1956

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 31, abstract 3G215 (V sb. "Morsk. gravimetr. issledovaniya", no. 1, Moscow, Mosk. un-t, 1961, 37-40)

TEXT: In order to study conditions of gravimetric investigations in arctic waters and to measure gravity force in unexplored region, a brief Greenland expedition (August - September 1956) on the Diesel electric-driven ship "Ob'" carried out observations with an Askania Werke pendulum instrument. The pendulum instrument with three minimal invar pendulums was placed into a Helmholtz coil. A contact chronometer and a GAISh experimental quartz clock (RZhAstr, 1960, no. 1, 1033) served as time indicators. To take into consideration perturbing accelerations and inclinations, were used two rapidly damping short-periodic (0.25 sec) pendulums, 2 long-periodic (30 sec) pendulums and a horizontal pendulum recording vertical accelerations. Observations were conducted

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solely under favorable conditions: during quiet weather, during drift of the ship with stopped engines; vibration effect was not perceived. The measurement accuracy was mostly affected by errors in individual measurement of pendulum period (± 7.5 mgal) and errors in correction for the run of clocks (± 4.0 mgal). The mean square error of gravity anomaly turned out to be ± 8 mgal. The accuracy estimate is confirmed by the results of previous determinations by other expeditions. A comparison with data for 17 points obtained by the drifting station "North Pole 1" (1937 - 1938) has shown a systematic overestimate of anomalies by about 16 mgal.

P. Shokin

[Abstracter's note: Complete translation]

S/035/62/000/003/043/053
A001/A101

AUTHOR: Grushinskiy, N. P.

TITLE: Marine gravity determinations in the Antarctic during 1956 - 1957

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 31, abstract 3G216 (V sb. "Morsk. gravimetr. issledovaniya", no. 1, Moscow, Mosk. un-t, 1961, 41-62)

TEXT: Scientific workers of the State Astronomical Institute imeni Shternberg GAISh, carried out gravimetric determinations in the Antarctic waters and Indian Ocean from the expedition Diesel electric-driven ship "Ob'" in 1956 - 1957. Measurements were conducted simultaneously with two pendulum instruments mounted in Cardan joints and placed in the ship's geophysical laboratory. TsNIIGAiK quartz-metallic pendulums were used in the Fechner-Sorokin modernized four-pendulum instrument, and brass pendulums in the Cambridge three-pendulum instrument. Long- and short-periodic pendulums were used for recording inclinations of the instrument, vertical and horizontal perturbing accelerations. Quartz clock developed in the GAISh (RZhAstr, 1960, no. 1, 1033) was used. Data on vertical perturbing accelerations in various sections of the ship were

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Marine gravity determinations ...

S/035/62/000/003/043/053
A001/A101

obtained by means of a ЛИТМО (LITMO) electronic accelerometer; conditions were: wind swell of force 2 and irregular swell of force 3-4; corrections for vertical accelerations on the stern turned out to be 2.5 times as great as near the gyroscopic section of the ship. Instruments are described, their technical characteristics are given, and methods of observations and calculations are described. As a control, repeated observations at Cape Town and Mirnyy and at four points with known gravity values were used. The accuracy of gravity measurement for a mean value from two instruments is estimated by an error of ± 7.3 mgal; the error in correction for perturbing accelerations, attaining 230 mgal, amounts on the average to ± 6.4 mgal. The accuracy of determinations of gravity anomalies at sea points is estimated by the average error of ± 8.0 - 8.4 mgal.

P. Shokin

[Abstracter's note: Complete translation]

Card 2/2

S/035/62/000/003/045/053
A001/A101

AUTHOR: Grushinskiy, N. P.

TITLE: An experience of using a gravimeter on the above-water ship

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 31-32, abstract 3G218 (V sb. "Morsk. gravimetr. issledovaniya", no. 1, Moscow, Mosk. un-t, 1961, 69-76)

TEXT: The author describes the first experience of marine gravimetric work in the USSR with the use of a gravimeter on an above-water ship during the second antarctic voyage of the Diesel electric-driven ship "Ob'" (see 3G216). Simultaneously with observations with pendulum instruments and in intervals between these observations, an experimental marine quartz gravimeter KGOM-3 (KGOM-3) of Veselov's design was used for observations. Readings of the gravimeter were corrected for temperature, zero-point drift, perturbing accelerations and Eötvös effect. The zero-point drift was determined, as a rule, from the results of pendulum observations obtained with an error of ± 8-10 mgal. The mean drift rate during 25 - 50 days was ~4 - 12 mgal/day. The measurement accuracy at 62 points was estimated from comparison with observational results at 32

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pendulum points by the mean square error of ± 10 mgal. Observations with the gravimeter were possible with less strong demands to conditions of ship rolling than with pendulum observations. The expediency of using gravimeters of this type is noted for marine observations, simultaneously with pendulum instruments, as a means of interpolating gravity values between points of pendulum observations. The measurement accuracy can be considerably improved provided that special accelerometers, photorecording and gyrostabilized platforms are used.

P. Shokin

[Abstracter's note: Complete translation]